11.2 WATERFLOW MEASUREMENTS

11.2.1 Introduction

The measurement of flow for surface water and wastewater sampling is essential to most water pollution control activities. Activi ties such as water quality enforcement studies, DEQ permit compliance monitor ing, water quality monitoring, municipal operation and maintenance investiga-tions, planning, and research relies on accurate flow measurement data. The importance of obtaining accurate flow data cannot be overemphasized, particu larly with respect t o enforcement investigations since these data will be used as evidence in enforcement case preparation. DEQ permits often limits the quantity (mass loading) of a particular pollutant that may be discharged, and the calculations of mass loadings are also frequently necessary for water qual ity studies and other purposes. As much attention and care will be given to flow measurement in the design of a sampling program as to the collection of samples and their subsequent laboratory analysis.

The basic objectives of this section are to:

- outline standard practices for DEQ personnel with respect to waste water flow measurements during water enforcement and compliance monitoring activities, and other studies where wastewater flow measure ments are required;

- outline standard practices for obtaining surface water flow during water quality surveys;

- review acceptable, commonly used flow measurement techniques; and

- present general and specific quality assurance procedures for the flow measurement equipment and techniques.

A complete discussion of all available flow measurement techniques is beyond the scope of this manual. However, most of the common techniques currently in use are covered in general terms. A compre hensive list of references is included at the end of this section and a de tailed discussion of flow measurement techniques may be found in these references.